

Comparisons of Job Characteristics

Focus Occupation: Industrial Engineers (17-2112)

Associated Occupation: Industrial Engineering Technicians (17-3026)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 93

Focus Occupation: Industrial Engineers (17-2112)

Associated Occupation: Industrial Engineering Technicians (17-3026)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Production and Processing	6.0	18.0	17.4	0	Current knowledge level may be sufficient
Engineering and Technology	5.7	16.7	18.0	0	Current knowledge level may be sufficient
Mathematics	9.2	15.6	15.6	0	Current knowledge level may be sufficient
Clerical	7.3	15.3	8.8	<<	Extensive education and/or training may be required
Design	5.2	13.4	14.8	>	Current knowledge level is likely sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 85

Focus Occupation: Industrial Engineers (17-2112)

Associated Occupation: Industrial Engineering Technicians (17-3026)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Monitoring	9.9	15.5	12.2	<<	Extensive development of skills in this area may be required
Complex Problem Solving	9.1	13.2	12.8	0	Current skill level may be sufficient
Mathematics	6.2	12.0	10.3	<	A higher skill level may be required
Systems Evaluation	6.4	12.0	9.5	<	A higher skill level may be required
Systems Analysis	6.5	11.8	9.9	<	A higher skill level may be required
Technology Design	2.6	8.5	4.4	<<	Extensive development of skills in this area may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 95			
Focus Occupation: Industrial Engineers (17-2112)					
Associated Occupation: Industrial Engineering Technicians (17-3026)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Near Vision	11.1	13.3	12.5	0	Current ability level may be sufficient
Number Facility	6.3	11.1	8.0	<<	Extensive improvement in abilities may be required
Selective Attention	8.7	11.0	10.7	0	Current ability level may be sufficient
Originality	7.6	10.7	9.7	<	Some improvement in abilities may be required
Fluency of Ideas	7.6	10.4	9.7	0	Current ability level may be sufficient
Mathematical Reasoning	6.3	10.3	10.5	0	Current ability level may be sufficient
Visualization	7.5	10.3	10.3	0	Current ability level may be sufficient
Speed of Closure	5.9	8.1	5.1	<<	Extensive improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 97
Focus Occupation: Industrial Engineers (17-2112) Associated Occupation: Industrial Engineering Technicians (17-3026)		
Work Activities	Exclusivity of Activity	
Advise clients regarding engineering problems	67	
Analyze effectiveness of safety systems or procedures	87	
Analyze engineering design problems	69	
Analyze technical data, designs, or preliminary specifications	47	
Calculate engineering specifications	64	
Communicate technical information	4	
Confer with engineering, technical or manufacturing personnel	25	
Design manufacturing processes or methods	77	
Develop safety regulations	74	
Estimate materials or labor requirements	61	
Evaluate engineering data	60	
Evaluate manufacturing or processing systems	68	
Examine engineering documents for completeness or accuracy	62	
Explain complex mathematical information	30	
Follow statistical process control procedures	73	

Improve test devices or techniques in manufacturing, industrial or engineering setting	75
Inspect facilities or equipment for regulatory compliance	51
Perform safety inspections in industrial, manufacturing or repair setting	32
Prepare safety reports	60
Prepare technical reports or related documentation	22
Read blueprints	10
Read production layouts	66
Read technical drawings	7
Record test results, test procedures, or inspection data	48
Study time, motion, or work methods of workers	89
Understand engineering data or reports	48
Use drafting or mechanical drawing techniques	50
Use mathematical or statistical methods to identify or analyze problems	30
Use technical information in manufacturing or industrial activities	67
Use technical regulations for engineering problems	61

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 74

Focus Occupation: Industrial Engineers (17-2112)
Associated Occupation: Industrial Engineering Technicians (17-3026)

Tools and Technologies	Exclusivity
Business function specific software	1
Cameras	2
Computer printers	2
Computers	1
Content authoring and editing software	1
Indicating and recording instruments	2
Industry specific software	1
Length and thickness and distance measuring instruments	2
Viewing and observing instruments and accessories	4

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.